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## ABSTRACT

Presented is an explanation of the position of the Iowa Department of Public Instruction on the teaching of creation and evolution in the public school classroom. Creationism is discussed as a religious concept. The nature of science as an investigatory process and a body of knowledge is also described. Evolution as a scientific theory is then described. Finally, the inclusion of creationism within the public school science curriculum is explored, and the conclusion is made that creationism is not an appropriate inclusion within the science curriculum. (CS)

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## CREATION, EVOLUTION AND PUBLIC EDUCATION

### THE POSITION OF THE IOWA DEPARTMENT OF PUBLIC INSTRUCTION

by Jack Gerlovich

#### The Controversy

In Iowa and other states, "creationism" has recently been advanced as an alternative to the theory of evolution. Attempts have been made to legislatively mandate "equal time" for creationist concepts in science classrooms, materials and textbooks.

Interviews and surveys conducted by the Iowa Department of Public Instruction show that most Iowa religious leaders, science educators, scientists and philosophers contacted support the present patterns of teaching science in Iowa's schools. In addition, due to the nature of scientific and theological concepts, these authorities feel that the specifics of each discipline should be confined to their respective houses.

The National Academy of Science has stated that religion and science are "separate and mutually exclusive realms of human thought whose presentation in the same context leads to misunderstanding of both scientific theories and religious beliefs."<sup>1</sup>

#### Creationism

In America, religion is usually defined as the expression of man's belief in, and reverence for, a metaphysical power governing all activities of the universe. Where there is not belief in metaphysical power, religion is a concern for that which is ultimate. Generally creationism is a religious concept. It proposes that all living things were created by a Creator. According to the creation model, "all living things originated from basic kinds of life, each of which was separately created."<sup>2</sup>

There are many versions of creation. Generally, creationists advocate that all permanent, basic life forms originated thousands of years ago through directive acts of a Creator - independent of the natural universe. Plants and animals were created separately with their full genetic potentiality

<sup>1</sup>Resolutions adopted by the National Academy of Science and the Commission of Science Education of the American Academy for the Advancement of Science (Washington, D.C.: October 17, 1972)

<sup>2</sup>Bliss, R. B., Origins: Two Models; Evolution, Creation (San Diego: Creation Life Publishers, 1976) p. 31

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provided by the Creator. Any variation, or speciation, which has occurred since creation has been within the original prescribed boundaries. Since each species contains its full potentiality, nature is viewed as static, reliable and predictable. Based on alleged gaps in the geologic record, creationists reject the theory of the descent of plants and animals from a single line of ancestors arising through random mutation and successively evolving over billions of years. It is further alleged that, through analysis of geologic strata, the earth has experienced at least one great flood or other natural global disasters accounting for the mass extinction of many biological organisms. Following such extinctions there followed sudden increases in the number, variety and complexity of organisms.

Having all Biblical accounts of creationism placed in comparative theology courses with other religious accounts of origins will not placate ardent creationists. They require that creationism be presented as a viable scientific alternative to evolution.<sup>3</sup> More zealous creationists argue that "it is only in the Bible that we can possibly obtain any information about the methods of creation, the order of creation, the duration of creation, or any other details of creation."<sup>4</sup>

### Science

Science is an attempt to help explain the world of which we are a part. It is both an investigatory process and a body of knowledge readily subjected to investigation and verification. By a generally accepted definition, science is not an indoctrination process, but rather an objective method for problem solving. Science is an important part of the foundation upon which rest our technology, our agriculture, our economy, our intellectual life, our national defense, and our ventures into space.

The formulation of theories is a basic part of scientific method. Theories are generalizations, based on substantial evidence, which explain many diverse phenomena. A theory is always tentative. It is subject to test through the uncovering of new data, through new experiments, through repetition and refinements of old experiments, or through new interpretations. Should a significant body of contrary evidence appear, the theory is either revised or it is replaced by a new and better theory. The strength of a scientific theory lies in the fact that it is the most logical explanation of known facts, principles, and concepts dealing with an idea which does not currently have a conclusive test.

### Evolution

The theory of evolution meets the criteria of a scientific theory. It can explain much of the past and help predict many future scientific phenomena. Basically, the theory states that modern biologic organisms descended, with

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<sup>3</sup>Morris, Henry M., The Remarkable Birth of Planet Earth (San Diego: Creation Life Publishers, 1972)

<sup>4</sup>National Association of Biology Teachers - A Compendium of Information on the Theory of Evolution and the Evolution-Creationism Controversy (June 1977)

modification, from pre-existing forms which in turn had ancestors. Those organisms best adapted, through anatomical and physiological modification to their environment, left more offspring than did non-adapted organisms. The increased diversity of organisms enhanced their ability to survive in various environments and enabled them to leave more progeny.

The theory of evolution is designed to answer the "how" questions of science and biological development; it cannot deal effectively with the "who" or "why" of man's origin and development. It is, however, an effective means of integrating and clarifying many otherwise isolated scientific facts, principles and concepts.

There have been alternatives proposed to the theory of evolution (i.e., creationism, exo-biology, spontaneous generation); however, none are supported by the amount of scientific evidence that presently supports the theory of evolution.

It is evident that the process of evolution occurs. Successful species of living organisms change with time when exposed to environmental pressures. Such changes in species have been documented in the past, and it can be confidently predicted that they will continue to change in the future. Evolution helps explain many other scientific phenomena: variations in disease, drug resistance in microbes, anatomical anomalies which appear in surgery, and successful methods for breeding better crops and farm animals. Modern biological science and its applications on the farm, in medicine, and elsewhere are not completely understandable without many of the basic concepts of evolution.

There are many things that evolution is not. It is not dogma. Although there is intense dispute among scientists concerning the details of evolution, most scientists accepts its validity on the ground of its strong supporting evidence.

#### Department of Public Instruction Decision

Teaching religious doctrine is not the science teacher's responsibility. Teachers should recognize the personal validity of alternative beliefs, but should then direct student inquiries to the appropriate institution for counseling and/or further explanation. Giving equal emphasis in science classes to non-scientific theories that are presented as alternatives to evolution would be in direct opposition to understanding the nature and purpose of science.

Each group is fully entitled to its point of view with respect to the Bible and evolution; but the American doctrine of religious freedom and the Establishment Clause in the First Amendment to the U. S. Constitution forbid either group--or any other religious group--from pressing its point of view on the public schools. An Indiana court decision declared: "The prospect of biology teachers and students alike forced to answer and respond to continued demand for 'correct' Fundamentalist Christian doctrines has no place in public schools."<sup>5</sup>

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<sup>5</sup>Hendren vs. Campbell, Supreme Court No. 5 Marion County, Indiana (1977)

The science curriculum should emphasize the theory of evolution as a well-supported scientific theory--not a fact--that is taught as such by certificated science teachers. Students should be advised that it is their responsibility, as informed citizens, to have creationism explained to them by theological experts. They must then decide for themselves the merits of each discipline and its relevance to their lives.

The Iowa Department of Public Instruction feels that public schools cannot be surrogate family, church and all other necessary social institutions for students, and for them to attempt to do so would be a great disservice to citizens and appropriate institutions.

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BIBLIOGRAPHY--CREATION/EVOLUTION

- Armitage, A., Sun, Stand Thou Still: The Life and Work of Copernicus, the Astronomer (New York: H. Schuman, Publisher, 1947).
- Aulie, Richard P., "The Doctrine of Special Creation" (two parts), American Biology Teacher, April 1972, p. 191, and May 1972, p. 261.
- BSCS Newsletter No. 49 (Boulder, Colorado: Science, Biology and Evolution Biological Sciences Curriculum Study, November 1972).
- Bailey, E. B., James Hutton--The Founder of Modern Geology (New York: Elsevier Publisher, 1967).
- Barnes, T. G., Origin and Destiny of the Earth's Magnetic Field (San Diego: Creation Life Publishers, 1973).
- Barrett, P. H., The Collected Papers of Charles Darwin (Chicago: University of Chicago Press, 1977).
- Baylo, J. G., Creation and Evolution (Chicago: The Regular Baptist Press, 1961).  
Bioscience, October 1970.
- Bird, W. R., "Freedom of Religion and Science Instruction in Public Schools," Yale Law Journal, January 1978, Volume 87, pp. 513-570.
- Bliss, R. B., Origins: Two Models--Evolution, Creation (San Diego: Creation Life Publishers, 1976), pp. 34-49.
- Board of Education of Central School District No. 1 vs. Allen, 392 U.S. 236, 88 S. Ct. 1923, 20 L. Ed. 2d 1060, 1968.
- Branden, N., "Mental Health versus Mysticism and Self-Sacrifice," in The Virtue of Selfishness, Rand A. (New York: American Book Library, 1964). pp. 36-42.
- Broad, W. J., "The Cosmic Clue," Science News, September 5, 1978, Volume 114, No. 9, pp. 136-7.
- Brodrick, J., Galileo: The Man, His Work, His Misfortunes (New York: Harper and Row Publishers, 1964).
- Bronowski, J., The Ascent of Man (Boston: Little, Brown and Company, 1973), pp. 436-7.
- Cochran vs. Louisiana State Board, 281 U.S. 370, 50 S. Ct. 335, 74 L. Ed. 913, 1930.
- Cole, Fay-Cooper, "A Witness at the Scopes Trial," Scientific American, January 1959, p. 121.

- Cole, Stewart, The History of Fundamentalism (New York: Richard R. Smith, Inc., 1931).
- Coleman, W. R., George Cuvier, Zoologist: A Study in the History of Evolution Theory (Cambridge: Harvard University Press, 1964).
- Creation Research Society Brochure, San Diego, California.
- Creation Science Research Center Brochure.
- Daniel vs. Waters, 515 F. 2d 485, 1975.
- Darlington, C. D., The Evolution of Man and Society (New York: Simon and Schuster, 1969), pp. 69-87.
- Darlington, C. D., "The Origins of Darwinism," Scientific American, May 1959, p. 60.
- Darwin, C., Charles Darwin's Autobiography with Notes and Letters Depicting the Growth of the Origin of Species (New York: H. Schuman Publisher, 1950).
- De Camp, L. Sprague, The Great Monkey Trial (Garden City: Doubleday, 1968).
- Did Man Get Here by Evolution or by Creation? (New York: Watchtower Bible and Tract Society, 1967).
- Dobzhansky, T., "Nothing in Biology Makes Sense Except in the Light of Evolution," American Biology Teacher, March 1973, p. 128.
- Ehrlich, P. and L. C. Birch, Nature, 1967, Volume 214, p. 352.
- Epperson and Blanchard v. State of Arkansas, 89 U.S. 266, 1968.
- Epperson vs. State of Arkansas, 393 U.S. 97, 89 S. Ct. 266, 21 L. Ed. 2d 288, 1968.
- Everson vs. Board of Education of Ewing Township, 330 U.S. 1, 57 S. Ct. 504, 91 L. Ed. 711, 1947.
- Gade, J. A., The Life and Times of Tycho Brahe (Princeton, New York: Princeton University Press for the American-Scandinavian Foundation, 1947).
- Gatewood, Willard B., Jr., Preachers. Pedagogues & Politicians: The Evolution Controversy in North Carolina 1920-1927 (Chapel Hill: University of North Carolina Press, 1966).
- Ginger, Ray, Six Days or Forever (Tennessee v. John Thomas Scopes) (Boston: Beacon Press, 1958).
- Gish, Duane T., "Creation, Evolution, and the Historical Evidence," American Biology Teacher, March 1973, p. 132.
- Gish, Duane T., Evolution? The Fossils Say No, Creation Life Publisher, San Diego, California.



- Gish, D. T., "Creation, Evolution, and Public Education," Unpublished paper--received by Iowa Department of Public Instruction, June 1977 (San Diego: Institute for Creation Research).
- Glass, H. Bentley, "The Centrality of Evolution in Biology Teaching," American Biology Teacher, November 1970, Volume 29, p. 705.
- Goodfield, J., Playing God: Genetic Engineering and the Manipulation of Life (New York: Random House, 1977), p. 30.
- Grabiner, J. and P. Miller, "Effects of the Scopes Trial," Science, September 6, 1974, p. 832.
- Hardin, G., "Ambivalent Aspects of Evolution," American Biology Teacher, January 1973, pp. 15-19.
- Hassler, D. M., Erasmus Darwin (New York: Twayne Publisher, 1975).
- Hefley, James C., Textbooks on Trial (Wheaton, Illinois: Victor Books, 1976).
- Hendren vs. Campbell, Supt. Ct. No. 5, Marion County, Indiana, 1977, p. 20.
- Hoebel, E. A., Anthropology: The Study of Man (San Francisco: McGraw-Hill Book Company, 1966).
- Holmes, S. J., "Proposed Laws Against the Teaching of Evolution," Bulletin of The American Association of University Programs, December 1927, Volume 13, No. 8.
- House, G. F. Speak to the Earth (Creation studies in Geo Science) Presbyterian and Reformed Publishing Co., Nutley, New Jersey.
- ICR-IMPACT Series (San Diego: Institute for Creation Research).
- Institute for Creation Research Brochure, San Diego, California.
- Iowa, State of, Department of Public Instruction, Curriculum Division, "Creation, Evolution and Public Education: The Position of the Iowa Department of Public Instruction," position paper (Des Moines: Iowa Department of Public Instruction, 1978).
- Kauffman, E. G., "Plate Tectonics: Major Force in Evolution," The Science Teacher March 1976, pp. 13-17.
- Kofahl, R. E., Handy Dandy Evolution Refuter (San Diego: Creation Science Research Center, 1977).
- Koyre, A., The Astronomical Revolution: Copernicus, Kepler, Borelli (Ithaca, New York: Cornell University Press, 1973).
- Krutch, Joseph Wood, "The Monkey Trial," Commentary, May 1967, p. 83.
- LeCercq, F. S., "The Monkey Laws and the Public Schools: A Second Consumption?" Vanderbilt Law Review, March 1974, Volume 27, No. 2, pp. 211-242.



Lemon vs. Kurtzman, 403 U.S. 602, 612-13; 91 S. Ct. 2105, 2111; 29 L. Ed. 2d 745; 1971.

Lerner, M., Heredity, Evolution and Society (San Francisco: W. H. Freeman and Company, Publishers, 1968), p. 33.

Lisonbee, Lorenzo, "Thwarting the Anti-Evolutionary Movement in Arizona," TST, February 1965, Volume 32, p. 35.

Lyell, C., The Geological Evidences of the Antiquity of Man, With Remarks on Theories of the Origin of Species by Variation (Philadelphia: G. W. Childs Publisher, 1863).

Malthus, T. R. (edited by A. Flew), An Essay on the Principle of Population, and a Summary View of the Principle of Population (Harmondsworth, England: Penguin Books, 1970).

Martin, C. P., American Scientist, January 1953, p. 100.

Matthews, L. H., Introduction of the Origin of Species by Charles Darwin (London: J. M. Deut & Sons, LTD., 1971), pp. x-xi.

Mayr, Ernst, "Evolution vs. Special Creation," American Biology Teacher, January 1971, Volume 33, p. 49.

Metzer vs. Board of Public Instruction of Orange City, Florida, 45 L.W. 2434, 1977.

Michel, P. H., The Cosmology of Giordano Bruno (Ithaca, New York: Cornell University Press, 1973).

Moore, John N., "Evolution, Creation and the Scientific Method," American Biology Teacher, January 1973, p. 23.

Moore, John N. and Harold Schultz Slusher (eds.), Biology: A Search for Order in Complexity, developed by the Creation Research Society (Grand Rapids: Zondervan, 1970).

Morris, Henry M., The Remarkable Birth of Planet Earth (San Diego: Creation Life Publishers, 1972).

Morris, Henry M., Scientific Creationism (Creation Life Publishing Co., San Diego, California.)

Morris, Boardman, Koortz, Creation Science Teachers Handbook, Creation Science Research Center, San Diego, California.

NABT News and Views, April 1975, Volume XIX, No. 2.

Nardone, R. M. (ed.), Mendel Centenary: Genetics, Development and Evolution, Proceedings of a Symposium held at the Catholic University of America, November 3, 1965 (Washington: Catholic University Press, 1968).

- National Association of Biology Teachers, A Compendium of Information on the Theory of Evolution and the Evolution-Creationism Controversy (Reston, Virginia: National Association of Biology Teachers, 1977).
- National Resolutions Adapted by the National Academy of Science and the Commission on Science Education of the American Association for the Advancement of Science, BSCS Newsletter No. 49, November 1972, p. 17.
- Nelkin, Dorothy, Science Textbook Controversies and the Politics of Equal Time (Cambridge: MIT Press, 1977).
- Nelkin, D., Scientific American, April 1976, Volume 234, No. 4, p. 34.
- Nevins, S., Series Impact No. 8 (San Diego: Institute for Creation Research, 1973).
- Newsweek, August 25, 1975, pp. 44-48.
- Newell, N. D., "Evolution Under Attack," Natural History, April 1974, pp. 37-38.
- Nicholle, J., Louis Pasteur, The Story of His Major Discoveries (New York: Basic Books, 1961).
- Oparin, A. I. (Morgulis, S. - Translation from Russian), The Origin of Life (New York: Dover Publications, 1953).
- Orlich, D. C., J. L. Ratcliff, D. R. Stronk, "Creationism in the Science Classroom," The Science Teacher, May 1975, pp. 43-45.
- Osborn, Henry Fairfield, From the Greeks to Darwin (New York: Scribners, 1924).
- People of Illinois ex. Rel. McCollum vs. Board of Education of School District No. 71, Champaign County, 330 U.S. 203, 68 S. Ct. 461, 92 L. Ed. 649, 1948.
- Piediscalzi, N. and W. E. Collie, Teaching About Religion in Public Schools (Niles, Illinois: Argus Communications, 1977).
- Resolutions Adopted by the National Academy of Science and the Commission of Science Education of the American Academy for the Advancement of Science, Washington, D. C., October 17, 1972.
- Riddle, Oscar (ed.), The Teaching of Biology in Secondary Schools of the United States (Washington: Union of American Biological Sciences, 1942).
- Sagan, C., The Dragons of Eden: Speculations on the Evolution of Human Intelligence (New York: Random House, 1977), p. 23.
- School District of Abington Township, Pennsylvania vs. Schempp, 347 U.S. 203, 83 S. Ct. 560, 10 L. Ed. 2d 844, 1963.
- Science, November 1972, p. 725.

Science News, December 17, 1977, Volume 112, No. 25, p. 405.

Scopes, John T. and James Presley, Center of the Storm: Memoirs of John T. Scopes (New York: Holt, Rinehart and Winston, 1967).

Scopes vs. State of Tennessee, 154 Tenn. 105, 289 S.W. 363, 1927.

Seagraves, N. J., The Creation Report (San Diego: Creation-Science Research Center, 1977).

Steeves, F. L., "State Approved Curricula in Religious Studies," paper from PERSC (Public Education Religion Studies Center) (Dayton, Ohio: Wright State University, September 15, 1973), p. 13.

Tavel, D. "Church-State Issues in Education," Phi Delta Kappa Educational Foundation, Bloomington, Indiana, 1979.

Tompkins, Jerry R. (ed.), D-Days at Dayton: Reflections on the Scopes Trial (Baton Rouge: Louisiana State University Press, 1965).

Toopes, C., "Give Me That Ole-Time Religion," Ottumwa Courier, April 1, 1978.

"Tooth Patterns and the Human-Ape Split," Science News, December 17, 1977, Volume 112, No. 25, p. 405.

Weinberg, Stanley L., "A Reply to Walker, Mertens, and Hendrix on the Creation-Evolution Issue," American Biology Teacher, December 1977, p. 548.

Weinberg, S. and A. Kalish, Biology: An Inquiry into the Nature of Life (Boston: Allyn and Bacon, Inc., 1977), pp. 437-438.

Zorach vs. Clauson, 343 U.S. 306, 72 S. Ct. 679, 96 L. Ed. 954, 1952.

#### Additions

Piaget, J., Behavior and Evolution (New York: Random House, 1978).

Grasse, P. P., Evolution of Living Organisms: Evidence for a New Theory of Transformation (New York: Academic Press, 1977).

#### MATERIALS

Eye Gate Quickstrips - An Introduction to Evolution - Catalogue No. X232.

Extinction - The Game of Ecology. Carolina Biological Supply Company, Burlington, North Carolina. 45-1400. \$15.95.

Evolution Set - A collection of 20 single readers (16 pages each). 45-9547. Carolina Biological Supply Company, Burlington, North Carolina.

Fossils, Strata, and Evolution (Filmstrip) Creation Life Publishing Co., San Diego, California. \$29.95.

Additions Con't

- Barrett, P. H. The Collected Papers of Charles Darwin. University of Chicago Press, Chicago. 1977. \$40 (set - 2 vols.) Professional audience.
- Bergman, J. Teaching About the Creation/Evolution Controversy, Fastback 134, Phi Delta Kappa Education Foundation, Bloomington, Indiana.
- Burkhardt, R.W., Jr. The Spirit of System: Lamarck and Evolutionary Biology. Harvard University Press. 1977. \$16.50 General audience, first 2 years of college, professional audience.
- Dobzhansky, T., et.al. Evolution. W.H. Freeman. San Francisco. 1977. \$15.95 First 2 years of college. Professional audience.
- Gould, S. J., Ever Since Darwin: Reflections in Natural History, Norton, New York, 1977. \$9.95. General audience appeal.
- Patterson, C. Evolution. Cornell University Press, 1978.
- Shapiro, I. Darwin and the Enchanted Isles. Cowand, McCann & Geoghegan New York. 1977. \$4.95. Grades 309 audience.
- Creation/Evolution Journal. Four issues/year \$8.00 subscription fee. 953 Eighth Avenue, Suite 208, San Diego, California 92101.
- Garmon, L. The Empyrean Strikes Back. Science News, Vol. 117.24, June 14, 1980 p. 381.
- O'Rourke, R. Evolution and Creation: A supplemental View. Curriculum Trends Croft NEI Publication, June, July 1980. General offices 24 Rope Ferry Road, Waterford, Connecticut 06386.
- Schneider, G. Liberal Eugenics Creationism, unpublished paper. R.4 B.56 Chickasa, Oklahoma 73018
- The Triumph of Evolution. Science. Volume 208, 4447, May 30, 1980. pp. 1024-25.